REMARKS

SUMMARY

· In the Office Action dated May 26, 2004, the drawings were objected to because of a minor informality. Claims 9 and 28 were also objected to because of informalities. Furthermore, claims 1-37 were rejected under 35 U.S.C. §112, 35 U.S.C § 101 and/or 35 U.S.C. §102(e).

The applicants have amended claims 9-11 and 28-30. Accordingly, claims 1-37 remain currently pending. No new matter has been entered.

OATH/DECLARATION

Examiner stated that the oath was not in compliance with 37 CFR § 1.67(a) because the date that the oath was signed by the inventor was missing. Applicant has signed a new oath, which is included on a separate sheet in this mailing.

IN THE DRAWINGS

The drawings have been objected to as failing to comply with 37 CFR § 1.84(p)(5) because either they included references not set out in the written description, or they do not include references mentioned in the written description.

Figure 1 was amended to replace the SQL Statements "Create" and "Select" with "CREATE" and "SELECT" to match the form of the words in the amended specification (page 6, lines 21 and 24).

Figure 2 was amended in several places to improve the clarity of the disclosure. In particular, labels 202 and 212 were moved slightly, and arrows were added to their

respective designating lines to clarify that they are indicators of the Basis and Target Tables, respectively. In addition, the label "Looked Up Fields" was replaced by "Looked-Up Fields" to be consistent with the specification. The label 214 was moved from the "Key Field" to the "Looked-Up Fields" and new label 213 was added to designate the "Key Field" to be consistent with the amended specification. Target Table 212 was also divided to include a separate "Other Fields" section, and label 216 was moved over to indicate this new section to be consistent with the specification. The line between the "Key Field" and the "Looked-Up Field" in the Target Table 212 was changed to a dashed line to improve the clarity of the disclosure when read in conjunction with the specification. Furthermore, the "∞" symbol by the arrow ending in the "Key Field" has been changed to an "n" and ". . ." was added between the Basis Table and the Target Table to clarify that there may be multiple parts and tables. Finally, the multi-part looked-up table field "Look-Up Field:Looked-Up Field" was replaced by "Look-Up_Field"Looked-Up_Field", labels 222, 224, and 226 were added to this field, and the entire field was moved and set off from the Basis/Target Table Line with a large arrow to add clarity to the drawing and add the labels disclosed in the specification as requested by Examiner.

Figure 3 has been amended to replace "Join Clauses" in box 312 with "JOIN Clauses" for reasons of consistency with the specification.

Figure 6 has been amended to replace "Mass Storage" in element 604 with "System Memory" to coincide with the description as requested by Examiner. Labels 600 and 612 have also been added to the computer system and system bus, respectively, to reflect the designations in the description as requested by Examiner.

IN THE SPECIFICATION

The specification was objected to because of minor informalities. The specification has been amended to correct these informalities and to improve the clarity of the disclosure. In particular, the following has been amended in the specification: 1) Page 6, line 21 has been amended to replace "Create" with "CREATE". 2) Page 7, line 24 and page 8, line 2 have been amended to replace "assisted" with "assistance of", and to add a "," after the words "appropriate JOIN clauses". 3) Page 8, line 12 has been amended to replace "of" with "for", replace "being" with "are", and replace "beneficiary" with "beneficiaries". 4) Page 9, lines 1-4, 10, and 13 have been amended to insert "204" after "look-up field" and "202" after "basis table" in line 1, insert "226" after "second part" in line 2, replace "224" with "214" and insert "212" after "target table" and insert "213" after "primary key" in line 3, replace "226" with "224" in line 4, remove the space before "As alluded to" in line 10, and replace "target table 204" with "target table 212" and replace "table 202 or 204" with "table 202 or 212" in line 13, as requested. 5) Page 9, line 23 has been amended to replace "joins" with "JOINs". 6) Page 11, line 16 has been amended to replace "From" with "FROM" 7) Page 13, line 23 has been amended to replace "subsequent" with "subsequently". 8) Page 14, line 19 has been amended to add the reference numbers "614a, 614b" after the terms they represent in Fig. 6, "the software components". No new matter has been added

IN THE CLAIMS

Objections to the Claims

In the Office Action dated May 26, 2004, claims 9 and 28 were objected to because of informalities in the claim language. In particular, the word "that" appeared redundantly.

Claims 9 and 28 have been amended to remove one of the redundant "that" words.

Rejections Under 35 U.S.C. §112, ¶2

In the Office Action dated May 26, 2004, claims 10-14 and 29-33 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicants regard as the invention.

Claim 10 has been rejected under § 112 because the limitation "the second one or more fields to be looked up" has insufficient antecedent basis. Additionally, each of the limitations "said first look-up field", "a corresponding one of the second one or more fields to be looked up", and "concatenated with said first part" were found to be unclear because they could correspond to more than one other element. Applicant has amended claim 10 to include an "a" before "the second one or more fields to be looked up", thus providing an antecedent basis. Furthermore, Applicant has amended claim 10 to clarify what each of the limitations set out above correspond to. It now reads:

The method of claim 9, wherein each of said second plurality of fields is presented in a multi-part form, including a first part corresponding to said first look-up field, and a second part

corresponding to one of a second one or more fields to be looked up, and where said second part is concatenated with said first part in a predetermined manner.

Claim 29 has also been rejected under § 112 because the limitations "said first look-up field", "a corresponding one of said first one or more fields to be looked up", and "concatenated with said first part" were found to be unclear as to what element they corresponded to. Applicant has amended claim 29 to clarify what each of the limitations set out above correspond to. It now reads:

The apparatus of claim 28, wherein said programming instructions, when executed, operate the apparatus to present each of said second plurality of fields in a multi-part form, including a first part corresponding to said first look-up field, and a second part corresponding to one of said first one or more fields to be looked up, where said second part is concatenated with said first part in a predetermined manner.

Claims 11 and 30 have also been rejected under § 112 because the limitation "second one or more of a third plurality of fields of a third table" has insufficient antecedent basis. Applicant has amended claims 11 and 30 to include an "a" before this limitation and thus has provided an antecedent basis as requested by Examiner.

Claims 12-14 and 31-33 have been rejected under § 112 because they depend from rejected claims 10-11 and 29-30 respectively. With the amendments to claims 10-11 and 29-30, however, Applicant submits that these claims are in proper form under § 112.

Accordingly, the applicants request that the rejection to claims 10-14 and 29-33 under 35 U.S.C. §112, ¶2 be removed.

Rejections Under 35 U.S.C. §102(e)

Claims 9-14, 19, 28-33, and 38 are rejected under 35 U.S.C. §102(e) as being

anticipated by US Publication Number 2002/0013779 by Sridhar ("Sridhar").

Claim 9 stands rejected under § 102(e) as anticipated by Sridhar. Claim 9 is

drawn to a method of data processing techniques associated with data processing

operations involving multiple tables of a relational database. The method comprises:

> presenting a first plurality of fields of a first table for selection for use in a
> data processing operation;
> receiving a selection of a first field that is a member of said first fields;
> determining whether said selected first field is a first designated look-up
> field for looking up first one or more of a second plurality of fields of a
> second table;
> presenting said second plurality of fields for selection for use in said data
> processing operation, if it is determined that said selected first field is a
> first designated look-up field for looking up first one or more of said
> second plurality of fields of said second table.

Thus, claim 9 discloses a method of multi-part data table manipulation. In

particular, claim 9 discloses allowing *fields* of a data table to be selected for a data

processing operation, determining upon a field selection whether the selected field is a

designated look-up field for looking up a *second group of fields* in another data

table, and allowing this second group of fields from the other data table to be selected

and used in the data processing operation.

In contrast, Sridhar teaches a method of displaying data schema table

information and relationships, allowing a web developer to select these displays, and

generating the necessary backend logic for the developer to use the selected displays.

See Sridhar page 1, paras. 5-9. In particular, Sridhar teaches "automatically presenting

relationship information between a first table and a second table of a database[, and]

includes ascertaining an existence of a first foreign key relationship between the first

table and the second table." Sridhar, page 1, para. 9. This presentation of information, however, does not teach the specific method disclosed in claim 9 of the present invention of presenting a first table and then determining if a particularly selected field is a designated look-up field for other fields in a separate table. Specifically, Sridhar, teaches using one or more "link tables" (See paras. 34. 86-88, and Figs. 1, 9) to describe the relationship between separate tables. The present invention, on the other hand, utilizes the characteristics of a selected field to determine whether the information from a second table needs to be looked-up and presented. Thus, because Sridhar fails to teach this look-up characteristic method, he cannot anticipate claim 9. As such and for at least the reasons mentioned above, Applicant submits that claim 9 is in proper form for allowance and requests that the rejection under § 102 be removed.

Claim 28 is similarly rejected under § 102(e). Applicants submit that claim 28, which is directed to an apparatus, contains similar limitations to the method of claim 9. Thus, for at least the reasons set forth above with respect to claim 9, applicants believe that claim 28 is likewise in proper form for allowance.

Claims 10-14, 19 and 29-33, 38 depend from claims 9 and 28, respectively. Due at least in part on their dependency, Applicants submit that claims 10-14, 19 and 29-33, 38 are also in proper form for allowance.

Rejections Under 35 U.S.C. §103(a)

Claims 1-8, 15-18, 20-27, and 34-37 are rejected under 35 U.S.C § 103(a) as being unpatentable over Sridhar in view of US Patent Number 5,619,688 issued to Bosworth et al. ("Bosworth").

In response, Applicant respectfully reminds Examiner that § 103(a) requires the invention being claimed be viewed as a whole. Further, the courts have held that in an obviousness analysis, an examiner is to determine the difference between the invention being claimed and the teachings of the closest analogous prior art, and in addition, whether a person of ordinary skill in the art would be motivated to modify these teachings to arrive at the claimed invention.

With respect to claim 1, a novel method for identifying looked-up table fields in a data processing statement and generating SQL statements to join the target tables to the basis table is disclosed. More specifically, as set forth by claim 1, the novel method is to include the operations of:

> parsing a data processing statement;
> identifying table field or fields referenced in said data processing statement;
> for each identified table field, determining whether the table field is a looked-up field;
> identifying a basis table of which non-looked up ones of said identified table field or fields are members;
> identifying one or more target tables from which said looked-up one or ones of said identified table field or fields are to be looked up;
> generating a SQL statement, including with said generated SQL statement field or fields to be selected from said basis table and a FROM clause enumerating said basis table, and if the data processing statement was determined to contain one or more fields to be looked up from one or more target tables, further including among said field or fields to be selected said one or more fields to be looked up from said one or more target tables, and one or more JOIN clauses respectively joining said basis table and said one or more target tables, and one or more corresponding ON clauses respectively specifying one or more corresponding conditions on which rows of said basis and said one or more target tables are to be joined, each of said one or more conditions comprising a corresponding look-up field.

Thus, claim 1 is directed to a method of identifying table fields from a *parsed data processing statement*, determining if any of the fields are *looked-up fields*,

identifying the corresponding basis table or target tables for each field, and for each looked-up field, generating a *SQL statement*. In particular, the novel SQL statement generation routine includes a FROM clause to enumerate the basis table containing the look-up field, a JOIN clause to join the basis table to the target table, and an ON clause to specify one of more corresponding conditions regarding which rows of each table are to be joined, where each condition comprises a corresponding look-up field.

In contrast, Sridhar again teaches "a computer-implemented method for facilitating website development by a website developer from a supplied data schema." Sridhar page 1, para. 5. Specifically, Sridhar teaches methods of allowing the developer to select between various data views generated from the data schemas, generating backend logic to support each data view, alternately generating the data views from a user data model, allowing the user to select presented relationships between tables in the data schema, and automatically extracting the SQL statements from the selected relationships. *See* Sridhar page 1, paras. 5-9.

To begin with, claim 1 specifies that the table field or fields are identified by a *parsed data processing statement*. Examiner asserts in the Office Action "that the extracted data that is manipulated in para. 29 (Sridhar), is parsed in order that the table in Fig. 14 can show different fields within different tables. Figs. 3 and 4 also show the parsed data processing statements in terms of the fields within the supplier and parts tables." Additionally, Examiner states that "Figure 13 shows a table of referenced table fields of link table 1000 in Fig. 10." Applicant, however, asserts that these references do not teach using a *parsed data processing statement* to identify table fields. In particular, the extracted data that is manipulated in paragraph 29 of Sridhar is data

selected by the user from a plurality of data views to be extracted for a separate data output. As these *views* are either generated from "all possible user *data models*" that are generated from the data schema or from edited developer-specified *data models*, they can not read on a data processing *statement* that specifies one or more table fields. In addition, because Sridhar infers all links between tables in generating the user data models (Sridhar, page 2, para. 29 – page 3, para. 30), he can not teach determining whether each table field identified from the parsed data processing statement is a look up table. Specifically, with these pre-generated or edited data models, a determination of whether a particular field is a look-up field is useless, because all links have already been inferred in generating all data models or already specified by the developer in using a specifically edited model.

Next, Examiner states that the supplier and parts table of Figure 4 of Sridhar reads on the basis and target tables specified by claim 1, respectively. However, Sridhar teaches that these two tables are linked by a link table which describes the attributes of the relationship between supplier and parts. *See* Sridhar page 3, para. 34. Thus, unlike the present invention, which determines whether a specified table field is a designated look-up field that references another set of fields in a second table, Sridhar teaches using a third link table between the two data tables to store information about relationships between tables. *See* e.g. Sridhar Figure 1, page 7, para. 65. Examiner additionally cites Sridhar paragraph 46, which states that one of the steps in creating a new data model is "an intermediate step in adding a child named 'part' to the node named 'supplier', and highlights the fact that the system has automatically determined the *identity of the linking table* and therefore the *possible 'join terms'* in the SQL to

be generated", as reading on *generating* a SQL statement including one or more JOIN

clauses respectively joining the basis table and one or more target tables. In particular,

the *identification* of a link table or "join terms" can not read on the *generation* of a

SQL statement with JOIN clauses, because they are separate functions.

Additionally, Examiner acknowledges that Sridhar does not teach or otherwise

disclose including with a *generated SQL statement* field or fields to be selected from

a basis table and a FROM clause enumerating said basis table , and one or more

corresponding ON clauses respectively specifying one or more corresponding

conditions on which rows of said basis and said one or more target tables are to be

joined, each of said one or more conditions comprising a *corresponding look-up field*.

The office action, however, cites Bosworth as showing these elements of claim 1 that

are deficient in Sridhar.

In contrast to the present invention, Bosworth is directed to a method of

constructing data queries that make changes to data stored in a database in a simple

and efficient manner. *See* Bosworth col. 1, lines 6-10, and col. 2 lines 55-56. In

particular, Bosworth does not teach or otherwise disclose determining whether a

selected table field is a looked-up field that references other fields in a separate table,

nor does it teach automatically generating SQL statements. As such, it does not cure

the above mentioned deficiencies of Sridhar.

Even assuming arguendo that Sridhar did not contain the above mentioned

deficiencies, Bosworth does not teach the subject matter of the acknowledged

deficiencies in Sridhar. In particular, Bosworth's use of the SQL directives, as cited in

the office action, relate to the formation of a query table from two tables, and does not

teach nor provide a method for generating SQL statements to present looked-up fields from a target table to be selected along with fields from a basis table. In particular, the fact that Bosworth shows a set of SQL expressions in demonstrating a query with references to two tables, does not teach or anticipate the specific method of the claimed invention, because the novel method of claim 1 specifies an arrangement of SQL statements to present looked-up fields from a target table to be selected along with fields from a basis table. For example, an instructional book on how to use C++ directives would not read on a novel computer program even though all the terms of the program are taught in the reference, because the novel method of the program is the arrangement of the terms in a manner to achieve a desired result. Thus, since Bosworth merely discusses how some SQL terms would work in a query, he cannot teach the separate arrangement of the those terms in claim 1.

Thus, for at least the reasons set out above, and the deficiencies of Sridhar, claim 1 is non-obvious and patentable over Sridhar. Bosworth does not cure the above discussed deficiencies nor the acknowledged deficiencies of Sridhar, therefore claim 1 remains patentable over Sridhar, even when combined with Bosworth, and is in proper form for allowance.

Claim 20 is similarly rejected under § 103(a). Applicants submit that claim 20, which is directed to an apparatus, contains similar limitations to the method of claim 1. Thus, for at least the reasons set forth above with respect to claim 1, Applicants submit that claim 20 is likewise in proper form for allowance.

Claims 2-8 and 21-27 depend from claims 1 and 20, respectively. Due at least in part on their dependency, Applicants submit that claims 2-8 and 21-27 are also in proper form for allowance.

Claims 15-18 and 34-37 are also rejected under § 103(a) as being unpatentable over Sridhar as applied to claims 9 and 28 above, and further in view of Bosworth. As Bosworth is directed to a method of constructing data queries that make changes to data stored in a database in a simple and efficient manner, it does not cure the deficiencies of Sridhar mentioned above in respect to claims 9 and 28. Therefore, based at least in part on their dependencies of claims 9 and 28, claims 15-18 and 34-37 are patentable over Sridhar, even when combined with Bosworth, and thus are in proper form for allowance.

CONCLUSION

In light of the above amendments and remarks, this application is now in condition for allowance. Claims 1-37 remain currently pending. Early issuance of Notice of Allowance is respectfully requested.

The Commissioner is hereby authorized to charge shortages or credit overpayments to Deposit Account No. 500393.

Respectfully submitted,

SCHWABE, WILLIAMSON & WYATT, P.C.

Dated: 8/19/04

Al AuYeung
Reg No. 35,432

Pacwest Center, Suites 1600-1900
1211 SW Fifth Avenue
Portland, Oregon 97204
Telephone: 503-222-9981